## *Mobile Application Development (CPRG-303-E)*

## Project Phase 2: App Architecture

## **Prepared by**

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## **School for Advanced Digital Technology**

## **1. Introduction**

This document details the architectural decisions for Studdy, a mobile study planner designed to help students manage their tasks, set reminders, and track progress efficiently. This architecture plan is based on the team's skill set and project requirements, ensuring a structured development process.

## **2. Architectural Framework Overview**

## The Studdy mobile application follows a three-tier architecture, ensuring modularity, scalability, and ease of maintenance:

## **2.1. Architecture Diagram**

## **2.2 Presentation Layer (Frontend)**

## Built using React Native for cross-platform support.

## Utilizes Bootstrap for UI consistency.

## Implements React Navigation for screen transitions.

## UI components include Task List, Calendar View, Reminders, and Progress Tracker.

## **2.3 Business Logic Layer**

## Handles task management, scheduling reminders, and progress tracking.

## Ensures seamless navigation between screens using stack-based routing.

## **2.4 Data Layer (Storage & Backend)**

## Local Storage: Encrypted AsyncStorage for offline access.

## Cloud Storage: Firebase for cloud synchronization and multi-device access.

## Data Flow: UI interactions → Business Logic Processing → Data Storage & Retrieval.

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## **3. Architecture Decision Records**

### **3.1 Development Framework**

**Decision:**

**Justification:**

### **3.2 Navigation Strategy**

**Decision:**

**Justification:**

### **3.3 Hardware Utilization**

**Decision:**

**Justification:**

### **3.4 Database Storage**

**Decision:**

**Justification:**

## **4. Progress Report**

## **5. Attribution List**

| **Task** | **Assigned Member** |
| --- | --- |
| Wireframe |  |
| UX/UI Design |  |
| Navigation and Notification Integration |  |
| Documentation and Report Compilation |  |
| Research and Decision Validation |  |